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A FINANCIAL ANALYSIS OF THE ONTARIO
UNIVERSITY SYSTEM - 1980

Ontario Council on University Affairs
September 1980

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INTRODUCTION

During the last few years, Council's concerns over the financial plight experienced by Ontario universities have intensified. Council documented these concerns in its 1979 paper, System on the Brink, a Financial Analysis of the Ontario University System. This report presented a number of indicators of the financial status of the Ontario university system and the effects of provincial funding on key expenditure items or functions within the universities. Council concluded, as a result of this analysis, that the system stood "at the brink of serious trouble". Based on the levels of financial support that could be projected for the university system as a result of Government's restraint program, Council then went a step further and predicted "a future of precipitous decline and turbulence as universities grapple with immense resource allocation problems".

The increase in operating grants made available to the universities for 1980-81 forestalled the "precipitous" decline predicted by Council. Nonetheless, it is clear that the system remains very much "on the brink". It is equally clear that the primary reason for this situation lies in continued underfunding of the university system.

Government underfunding must be viewed in the context of the extent to which it has prevented the universities from adequately carrying out their functions and maintaining quality. In its 1978 paper, The Ontario University System: A Statement of Issues, Council enunciated what it believed to be the implicit goals of the Ontario university system. These were as follows:

1. To develop a more educated populace;
2. To educate and train people for the professions;
3. To provide for study at the highest intellectual level;
4. To conduct basic and applied research including development and evaluation; and
5. To provide service to the community.

Although the attainment of these goals cannot be directly quantified, there are some measurable indicators which can be utilized to examine the impact of underfunding on the ability of the universities to carry out their functions. When the effect of underfunding on such expenditures as library acquisitions, equipment purchases and faculty and staff compensation is examined, it becomes clear that underfunding has restricted the ability of the universities to attain the goals set forth by Council. Underfunding has affected the quality of all aspects of the universities' operations from undergraduate education to research efforts.

This paper updates and modifies some of the financial indicators in System on the Brink in order to examine the relative extent of provincial underfunding, and its impact. It begins by illustrating in Section A that, in comparison to universities in other provinces, the relative level of provincial funding for Ontario universities has deteriorated significantly in recent years. Section B then shows that funding increases to universities compare unfavourably with funding increases accorded Ontario elementary and secondary schools. The paper then goes on to suggest that this shortage of funds has had a deleterious effect on key components of expenditure in Ontario universities. Specifically, there have been further declines in real terms in the salaries and wages of the faculty and staff, the value of equipment and furniture expenditures and library acquisitions

(Sections C, D and E). Section F indicates that provincial funding constraints on capital assistance for major repairs, renovations and replacement projects have been even more restrictive than those for operating grants. Section G contains an examination of the financial effects of the existing allocative mechanism on individual institutions, indicating the extent to which the formula has insulated institutions from the financial effects of enrolment change.

The final section of the paper (Section H) details certain problems associated with university research funding. In particular, it examines the impact of both provincial and federal funding policies on research efforts of Ontario universities. It indicates that the existing approach to funding university research has made it difficult to sustain a desirable level of research activity and to maintain an adequate research base in terms of manpower and equipment.

At present, there is growing interest on the part of the federal government in increasing research activities in Canada, using the universities as a major part of this effort. What is noteworthy is that of all the university systems in Canada, Ontario's system is in one of the worst positions to respond effectively to the challenge presented. In Council's view, a continuation of the present research funding policies of both levels of government will result in the continued deterioration of the Ontario university system's research base. This will not only harm Ontario universities, vis-à-vis other Canadian universities, it will also undermine Ontario's ability to promote industrial growth through research and innovation.

(A) INTERPROVINCIAL COMPARISONS

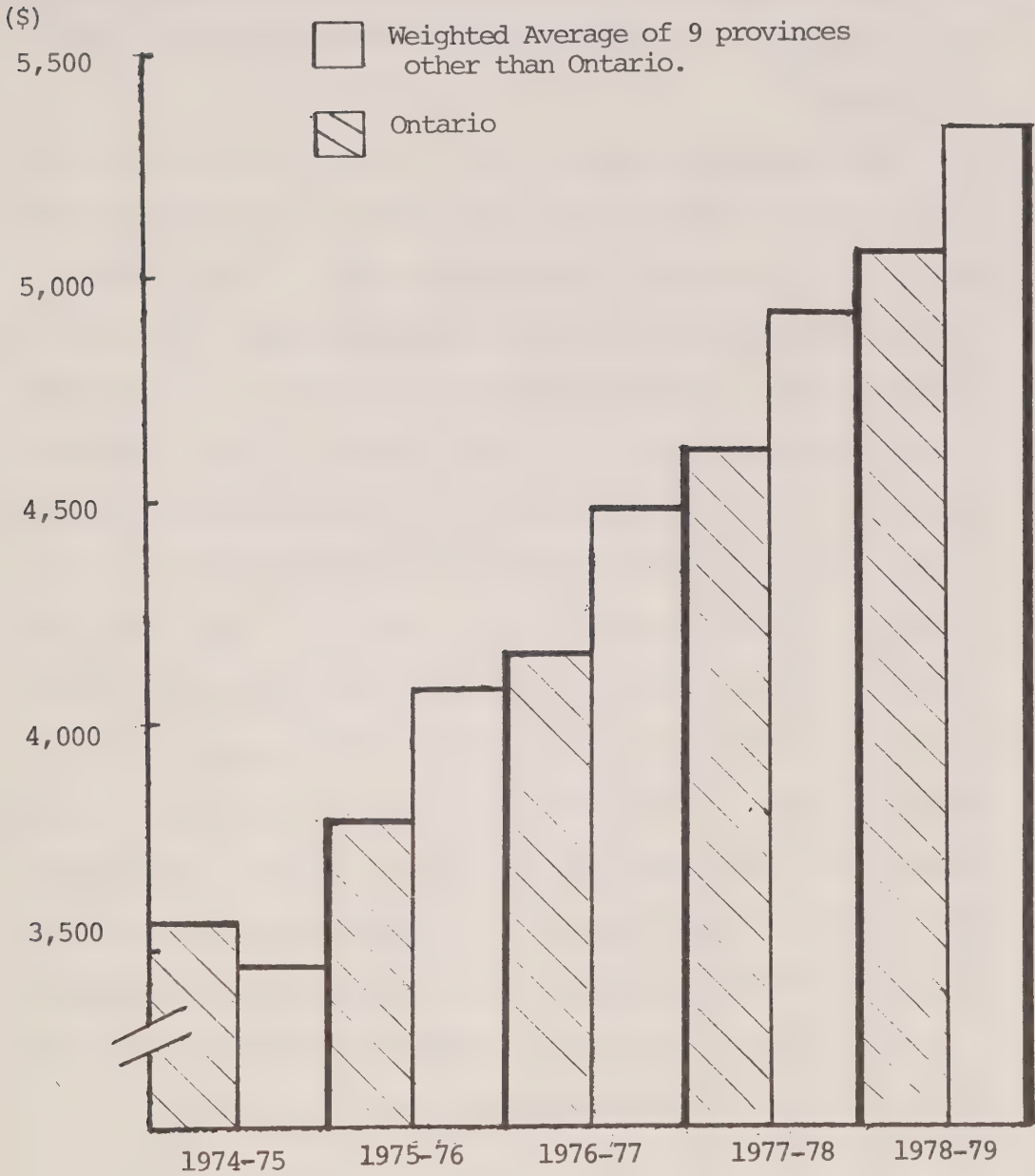
As pointed out in System on the Brink, the financial constraints faced by Ontario universities have been more stringent than those faced by universities in most other Canadian provinces. More recent evidence suggests that the financial position of Ontario's universities, relative to universities in other provinces, continues to erode.

Table 1 of the Appendix illustrates how extensive this erosion has been in terms of total operating income per full-time equivalent (FTE) student. The table outlines the total operating income per FTE student for each province in Canada, along with the Canadian average and the weighted average of the nine provinces other than Ontario, for the period 1974-75 to 1978-79. It indicates that Ontario declined in rank over this period from third to eighth; only Manitoba and Prince Edward Island were lower. Figure 1 is derived from Table 1 of the Appendix, and illustrates graphically that Ontario's position, vis à vis the weighted average of the other nine provinces in Canada, deteriorated over the period examined. The Ontario university system's low provincial ranking in operating income per FTE student in 1978-79 has been a direct result of the level of operating grants provided to the universities.

Table 2 of the Appendix presents the provincial operating grants per FTE student for each province in Canada over the same period, 1974-75 to 1978-79. It indicates that over this period, Ontario dropped from sixth to eighth place among all provinces in provincial operating grants per FTE student, with only Nova Scotia and Prince Edward Island being lower. Figure 2 illustrates graphically that over the period used in Table 2 of the Appendix, provincial operating grants per FTE student for the universities of

Figure 1

Interprovincial Comparison of University Revenue:
Total Operating Income per FTE Student,
1974-75 to 1978-79



Note: In order for Ontario universities to have received the same level of operating income per FTE student as the weighted average of the other nine provinces in Canada in 1978-79, the operating income of Ontario universities would have had to be over \$55 million higher in that year alone.

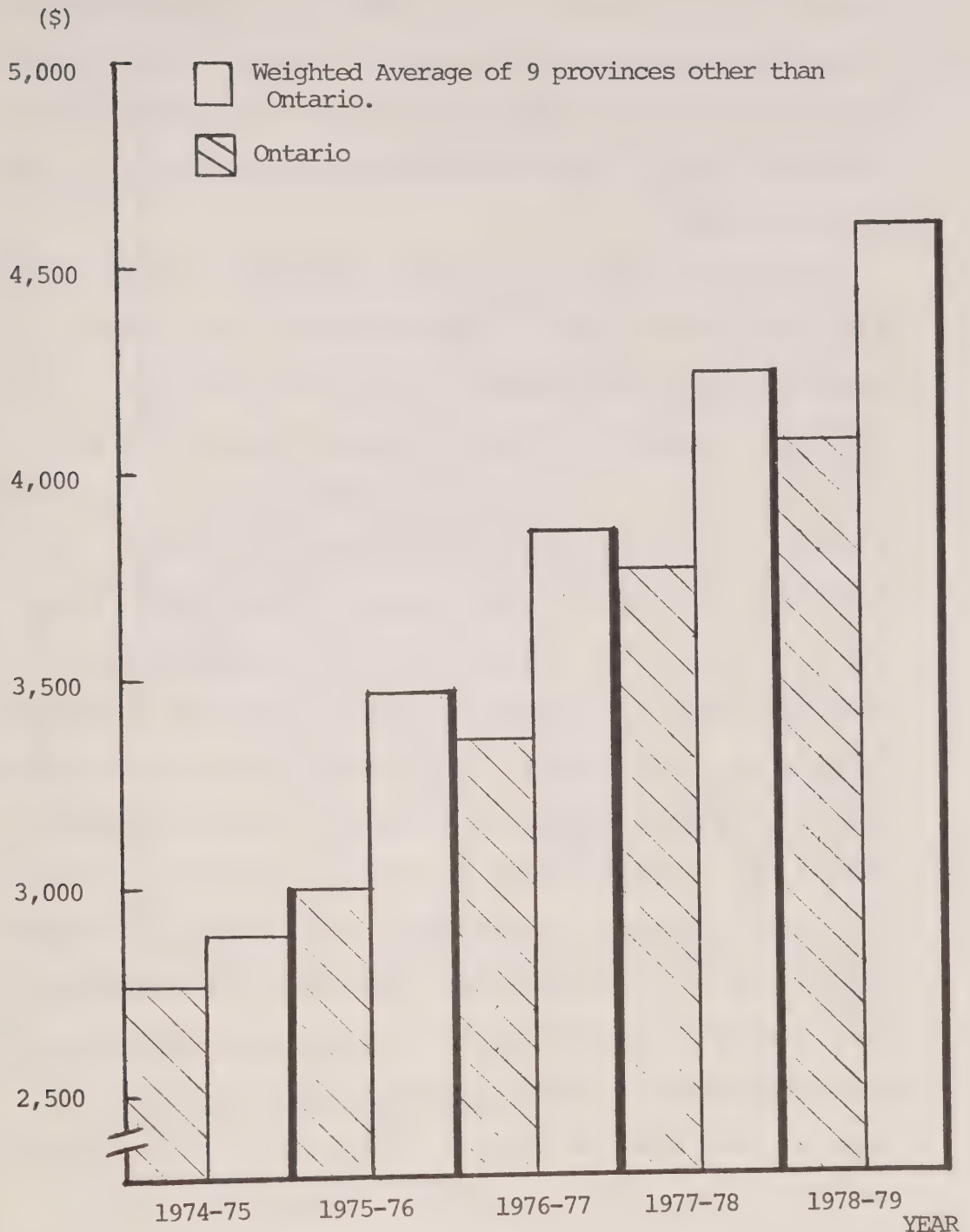
Source: Table 1 of Appendix.

Ontario did not keep pace with the weighted average of the grants provided in the other nine provinces in Canada. In order for Ontario universities to have been funded at the same level of operating grants per FTE student as the weighted average of the other nine provinces in Canada, in 1978-79, the Government of Ontario would have had to increase its operating grants by over \$90 million in that year alone.

Having examined comparative data on total income and provincial support for universities in each province up to 1978-79, it is important to see what has happened since then to these factors. Although data are not available to extend the sample period for the indicators used in Tables 1 and 2 of the Appendix, it is possible to examine changes in the key factors affecting these indicators. Table 3 of the Appendix documents, for each province, the changes in grants, fees and enrolment that have occurred in 1979-80, or are estimated to occur in 1980-81. It is clear from these data that, since 1978-79, the financial situation faced by Ontario universities has not improved relative to that of universities in other provinces. Over the past two years, Ontario universities have received the smallest percentage grant increases in Canada. This coincides with a period in which Ontario is one of only four provinces to experience enrolment increases. It is evident that, by comparison with other Canadian universities, Ontario universities have fared poorly in terms of provincial support in recent years.

Figure 2

Interprovincial Comparison of University Grants:
Provincial Operating Grants per FTE Student,
1974-75 to 1978-79



Note: In order for Ontario universities to have been funded at the same level of operating grants per FTE student as the weighted average of the other nine provinces in Canada in 1978-79, the Government of Ontario would have had to increase its operating grants by over \$93 million in that year alone.

Source: Table 2 of Appendix

(B) INTRAPROVINCIAL COMPARISONS

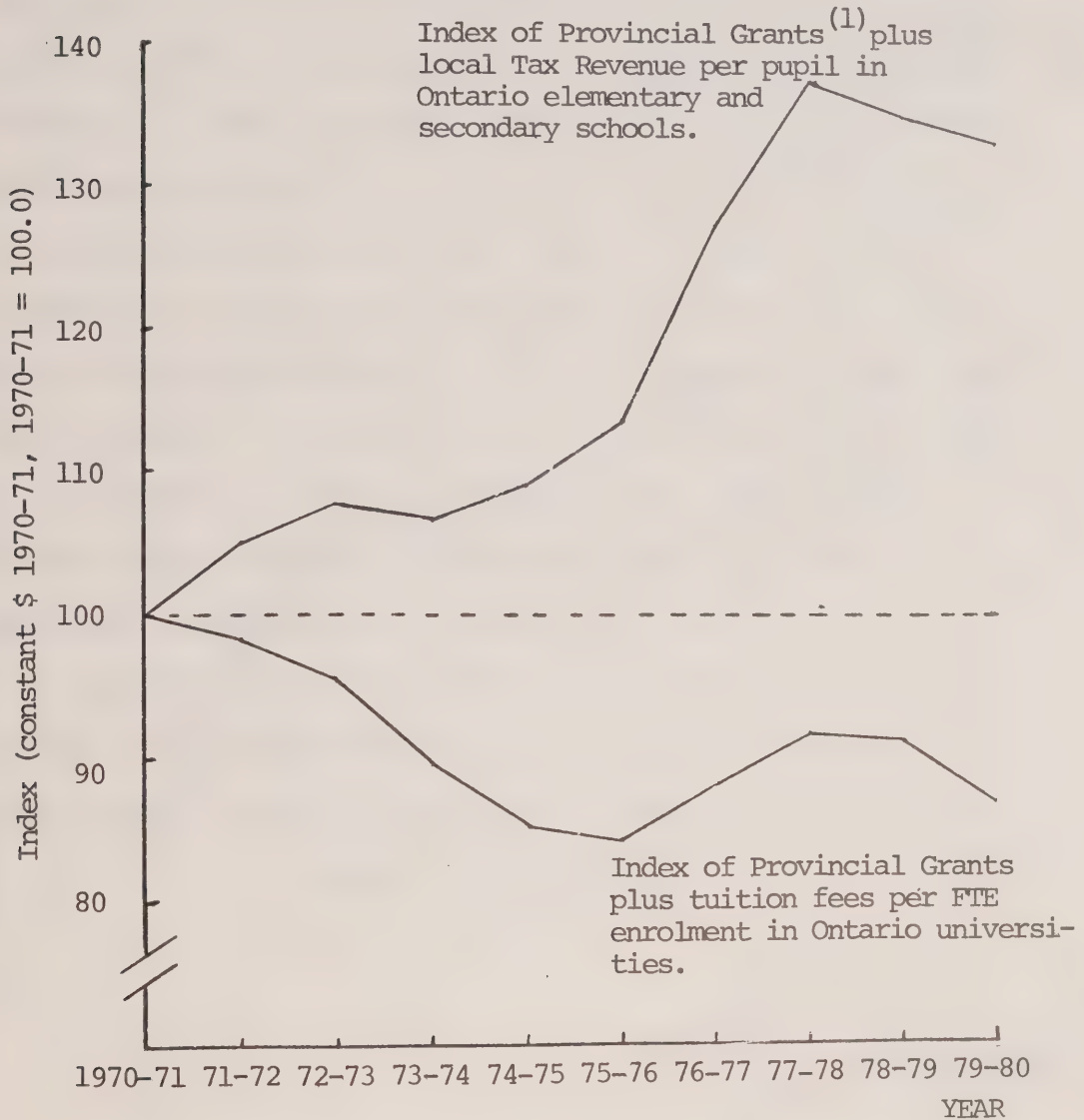
Council noted in System on the Brink that the severe financial constraints experienced by Ontario universities contrasted sharply with the revenue increases for the elementary and secondary schools. It was found that Ontario elementary and secondary school revenues per student increased substantially in real terms between 1970-71 and 1978-79, while university revenues per student declined during the same period.

The present analysis updates that undertaken in System on the Brink and augments it with a comparison of the real growth in provincial funding per student, that is, eliminating local tax revenue for elementary and secondary schools and fees for universities. Table 4 of the Appendix presents indexes of comparable university and elementary and secondary school revenues for the period 1970-71 to 1979-80, when provincial grants plus tuition fees are used as a proxy for university revenue and provincial grants plus local tax revenues are used as a proxy for elementary and secondary school revenue. The university revenue index measures, in constant 1970-71 dollars, the provincial grants plus tuition fees per FTE enrolment received by Ontario universities over this period. The elementary and secondary school revenue index measures in real terms the provincial grants¹ plus local tax revenues per pupil received by Ontario elementary and secondary schools over the same period. These indexes are also displayed graphically in Figure 3. They show that school revenue per pupil rose 33.2% in real terms between 1970-71 and 1979-80, compared with a 13.1%

1. For present purposes, provincial grants to schools include the provincial contribution to the Teachers' Superannuation Fund. Whenever the provincial contribution to the Teachers' Superannuation Fund is mentioned in this paper, it includes the provincial contribution to the Superannuation Adjustment Fund and Superannuation Adjustment Benefits.

Figure 3

Comparison of Revenue per Student in Universities and in
Elementary and Secondary Schools in Ontario,
1970-71 to 1979-80 (Constant \$ 1970-71, 1970-71 = 100.0)



(1) Provincial grants to schools include the provincial contribution to the Teachers' Superannuation Fund.

Source: Table 4 of Appendix

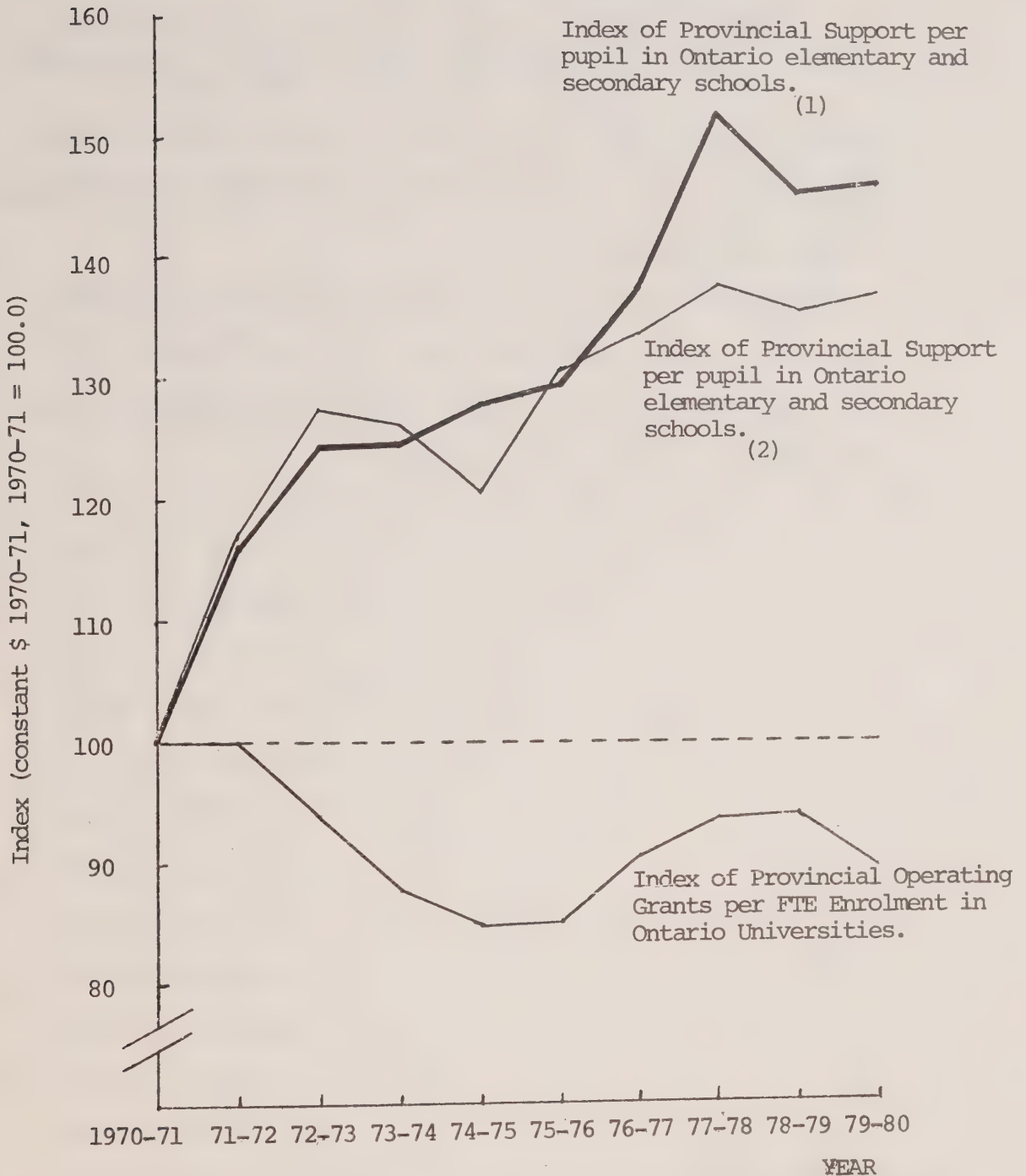
decline in university revenues per student during the same period¹.

Turning now to the relative level of provincial funding per student, it is found that the university sector has again not kept pace with the elementary and secondary school sector. Table 5 of the Appendix and Figure 4 present indexes of provincial grants per student for universities and for elementary and secondary schools, measured in 1970-71 dollars. Over the period 1970-71 to 1979-80, university operating grants per FTE student declined in real terms by 10.4% while provincial support per elementary and secondary school pupil increased by 46.3% when the provincial contribution to the Teachers' Superannuation Fund is included in provincial support and by 36.9% when this contribution is excluded. Operating grants to universities were \$782.4 million in 1979-80. If operating grants per FTE student had increased during the nine-year period presented in Figure 4 at the same rate as provincial support per elementary and secondary school pupil, the university system would have received an additional \$495 million in 1979-80 alone if the provincial contribution to the Teachers' Superannuation Fund is included in the calculation or \$413 million if it is excluded.

1. It would be desirable to include a comparable index of the provincial support per student for the other major education sector in the province, the Colleges of Applied Arts and Technology. However, it was not possible to compile what Council believes to be the most appropriate comparison data, operating grants per post-secondary student in the Colleges of Applied Arts and Technology.

Figure 4

Comparison of Provincial Support per Student in Universities
and in Elementary and Secondary Schools in Ontario, 1970-71
to 1979-80 (Constant 1970-71 dollars, 1970-71 = 100.0)



- (1) Provincial grants to schools include the provincial contribution to the Teachers' Superannuation Fund.
- (2) Provincial grants to schools exclude the provincial contribution to the Teachers' Superannuation Fund.

Source: Table 5 of Appendix

It is clear from the interprovincial and intraprovincial data presented above that:

- (a) the level of provincial support received by Ontario universities in recent years has created a degree of financial stringency, which universities in most other provinces have not had to face, and
- (b) the Government of Ontario in recent years has accorded a lower priority to the funding of the university system than to elementary and secondary school support.

The data also suggests that the relative position of the Ontario university system has worsened in the years following those examined in System on the Brink.

The consequence of this financial stringency for the Ontario university system may be seen by examining certain areas of university expenditures. The following sections thus update similar data provided in System on the Brink.

(C) FACULTY AND STAFF RESOURCES

The financial restrictions faced by Ontario universities have affected both the size of the faculty and staff complements and the level of their salaries. Data obtained from the Council of Ontario Universities (COU) on the size of the faculty complement are found in Table 6 of the Appendix. It indicates that the number of full-time equivalent faculty positions in Ontario universities declined by 223 or 1.7% over the period 1977-78 to 1979-80. Full-time tenure stream positions increased by 73 or 0.7% during this period, while full-time limited term positions declined by 145 or 8.8% and FTE part-time faculty positions declined by 151 or 8.3%.

It would be inappropriate to examine only the three years of faculty data presented in Table 6 of the Appendix and then attempt to draw any firm conclusions concerning trends in faculty numbers. It is more constructive to examine what has happened to the number of faculty positions over a longer time period and to compare changes in the size of the faculty complement with changes in enrolment.

Total university enrolment peaked in 1976-77 and then declined significantly in the following two years. On the other hand, faculty numbers did not peak until 1977-78. This lag in the response by the universities to the enrolment decline experienced in 1977-78 was, for the most part, because the enrolment drop had not been anticipated (demographic trends indicated that the universities would not experience a decrease in enrolment until 1982). In 1978-79, enrolment declined again and the universities began to respond by decreasing their faculty complements. The universities continued to reduce the number of faculty positions in 1979-80 in response to the enrolment

declines of the previous two years and in anticipation of a further enrolment decline in 1979-80. Unexpectedly, however, enrolment increased slightly in 1979-80. Looking ahead to 1980-81, it is now estimated that enrolment will increase by about 1% to 2% and that faculty positions will again decline by about 0.7%.

It is clear that, over the past five years, predicting short-term enrolment trends has been difficult. This unpredictability has made the universities understandably reluctant to make drastic changes in numbers of faculty.

In addition, the universities have had to adjust to significant changes in student preferences which have resulted in large enrolment shifts among discipline sectors. For example, full-time undergraduate enrolment over the period 1975-76 to 1979-80 increased by 25.9% in health professional and occupational programs, 17.4% in engineering and applied science programs and 11.9% in social science programs (including commerce and business administration). Over the same period, full-time undergraduate enrolment in education (including physical education), humanities, and agricultural and biological sciences decreased by 16.7%, 11.9% and 14.3% respectively. At the graduate level, full-time enrolment increased significantly in education (22.6%) and in agricultural and biological sciences (61.1%). Full-time graduate enrolment declined in humanities (11.1%), social sciences (3.0%), engineering and applied sciences (7.3%), health professions and occupations (51.2%), and mathematics and physical sciences (20.0%). It is evident that these enrolment shifts among discipline sectors have created severe problems in allocating faculty resources.

Information also provided by COU indicates non-academic staff

positions have been reduced at a greater rate than academic positions in recent years. It suggests that Ontario universities' non-academic staff complement declined by about 4% over the period 1977-78 to 1979-80¹. This decline in the number of support staff has had an adverse effect on the level of service in Ontario universities. It has affected all facets of the universities' operations, everything from the maintenance of plant, to research and general administration. Staff positions are expected to decline by a further 1.0% in 1980-81.

With respect to salaries, the recently published study by the Conference Board in Canada, Compensation in Canada: A Study of the Private and Public Sectors, indicates that wages and salaries for the non-academic positions in universities in 1978 were at the low end of the public and private sectors included in the study. Data supplied by COU show that faculty compensation has not kept pace with salaries in other sectors in the province. In particular, faculty salary increases have lagged behind those for economists, engineers and research scientists in sectors such as mining, manufacturing, communications, service and finance.

1. The sample did not include Lakehead and York.

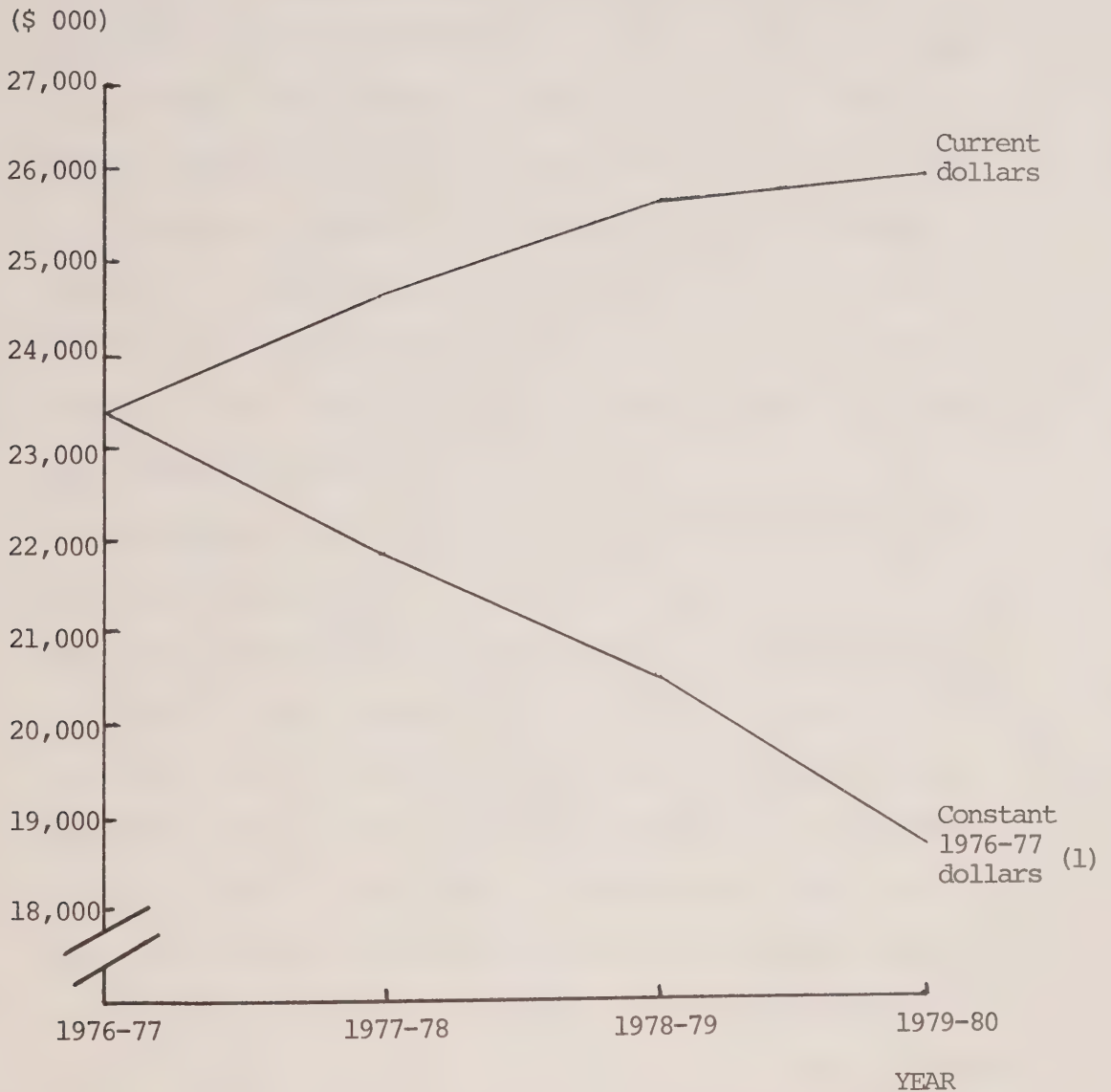
(D) EQUIPMENT AND FURNITURE

Non-salary expenditures have been curtailed in recent years in response to the underfunding experienced by Ontario universities. This has been particularly true of the expenditures on equipment and furniture - over 80% of which are devoted to equipment expenditures including computer costs. Table 7 in the Appendix shows the actual or anticipated expenditures on equipment and furniture for individual institutions and the system as a whole for the period 1976-77 to 1979-80. The first three years of data are the universities' actual expenditures on equipment and furniture, while the data for 1979-80 are their anticipated final expenditures for that year. Figure 5 illustrates graphically what has happened to these expenditures on a system-wide basis over this period.

The equipment and furniture expenditure data found in Figure 5 are provided in both current and constant 1976-77 dollars. The constant dollar expenditures for 1977-78 and 1978-79 are deflated by the equipment and furniture component of the Ontario University Non-Salary Price Index (OUNSPI). While there was a 5.4% increase in actual system expenditures from 1976-77 to 1977-78, and a 4.0% increase in the following year, the equipment and furniture component of OUNSPI correspondingly increased by 12.6% and 11.0%, implying that the value of equipment and furniture declined significantly in real terms. Although OUNSPI figures are not available for 1979-80, it is clear that the situation is worsening. The 1979-80 constant dollar figure shown in Table 7 of the Appendix was deflated by Council's estimate of the change in the total OUNSPI for that year. This figure implies that equipment and furniture expenditures declined in real terms by about 9% in 1979-80 as

Figure 5

Equipment and Furniture Expenditures
from Operating Income,
1976-77 to 1979-80



- (1) The 1977-78 and 1978-79 constant dollar figures were deflated by the equipment and furniture component of the Ontario University Non-Salary Price Index. The 1979-80 figure is deflated by Council's estimate of the change in the total OUNSPI for 1979-80.

Source: Table 7 of the Appendix

compared to a 6% drop in each of the previous two years. All of the available information suggests that the already severe problem of maintaining and replacing equipment and furniture is worsening.

(E) LIBRARY BOOKS AND PERIODICALS

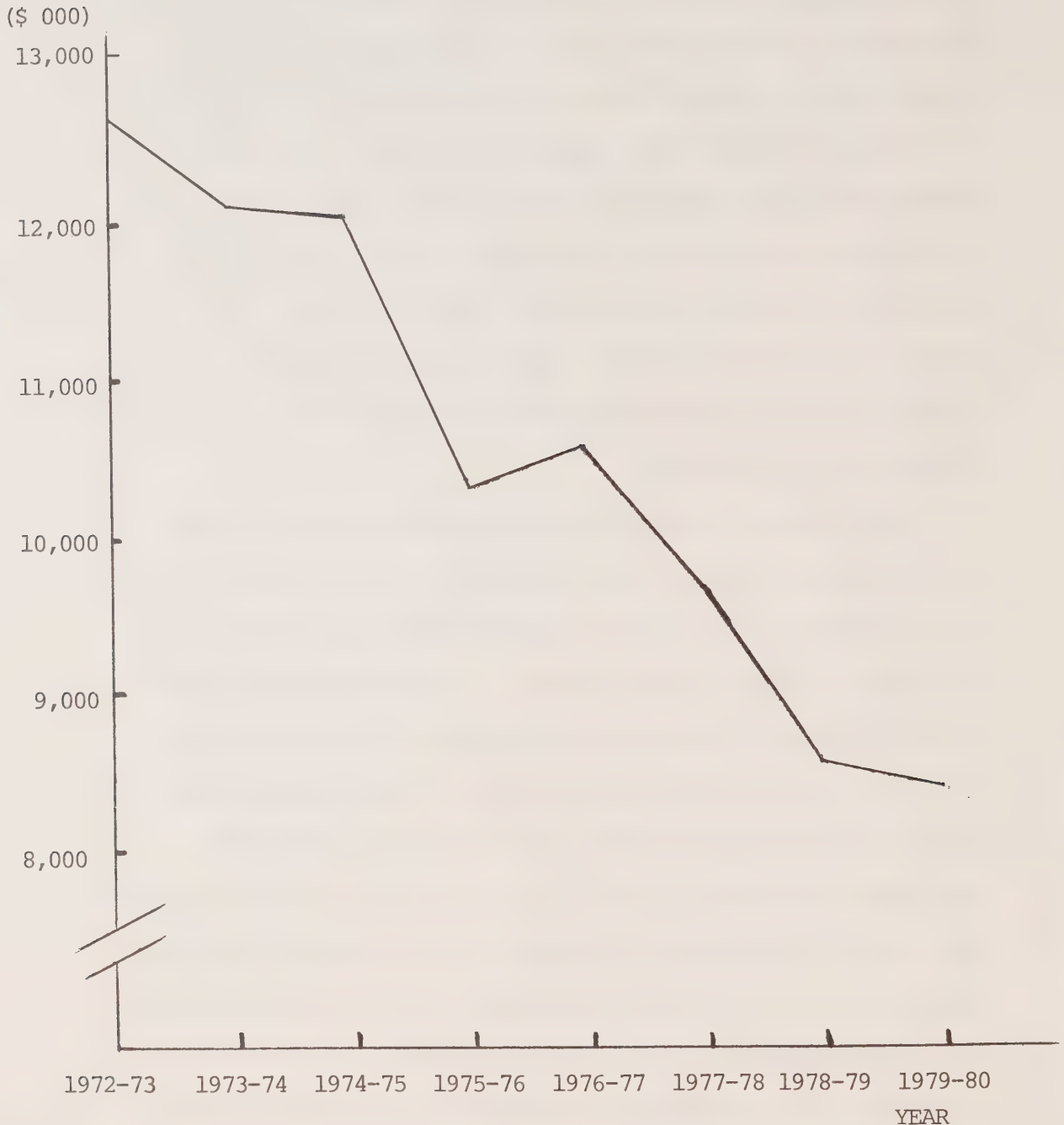
Another area of non-salary expenditures that has been curtailed as a result of the financial constraints experienced by the universities is expenditures on library book and periodical acquisitions. It was pointed out in System on the Brink that acquisitions of library books and journals by Ontario universities have declined almost uninterruptedly since 1972-73. Table 8 updates these data, indicating that the total value of library acquisitions for individual institutions and for the system, measured in constant dollars¹, continues to decline. Over the period 1972-73 to 1979-80 the total value of library acquisitions declined by over 33% when measured in constant dollars. Figure 6 illustrates this decline.

The decline in library acquisitions experienced in recent years has been caused by more than the pressures of general financial constraints; it reflects exceptionally rapid increases in the prices of books and periodicals. During the period 1972-73 to 1979-80 library acquisition expenditures increased by about 47%, while during the same period library books and periodical prices increased by over 146%. In recent months there has been mounting concern over the level of price increases anticipated for books and periodicals in 1980-81. It is estimated that the rate of inflation for books and periodicals will match or surpass that experienced in the peak period of 1977-78 to 1978-79 which resulted from the decline in the value of the Canadian dollar. Such inflationary pressure, when combined with underfunding, will make it extremely difficult for universities to maintain adequate collections.

1. The price deflator used for calculating constant dollar values for the years 1972-73 to 1978-79 was the Books and Periodicals component of the Ontario University Non-Salary Price Index. The remaining year of data was deflated by a books and periodicals inflation estimate provided by Queen's University.

Figure 6

Expenditures on Library Acquisitions from Operating Income,
1972-73 to 1979-80. (\$ 000 constant 1972-73)



1. The price deflator used for calculating constant dollar values for 1972-73 to 1978-79 was the Books and Periodicals component of the Ontario University Non-Salary Price Index. The price deflator used for 1979-80 was provided by Queen's University.

(H) RESEARCH FUNDING

In both The Ontario University System: A Statement of Issues and System on the Brink, Council has expressed serious concerns about the impact of underfunding on the Ontario university system's ability to carry out its research function. In System on the Brink Council also listed some of the benefits from university research, which have accrued to industry and society in general over the past two or three decades. Council continues to be concerned that a decline in the Ontario university research base will have ramifications far beyond those felt by the Ontario university system. The ability of the universities to benefit industry and society will be severely diminished.

Although the need for a strong research effort has become generally recognized as being an essential ingredient for the promotion of industrial growth, Canada's research activity has remained significantly below the level of most industrialized countries. At present, Canada's total expenditure for research and development is equal to just over 0.9% of the gross national product (GNP). This level compares with a 2.3% figure for West Germany, 2.2% for the United States, 1.9% for Japan and 1.8% for France. Measured as a percentage of GNP, Canada's research effort is less than half that undertaken by these industrialized nations.

In recent years there appears to have been a renewed emphasis on investment in research and development. In 1978, the Government of Canada set a national target for research and development expenditures at 1.5% of GNP by 1983. Earlier this year, the Minister of State for Science and Technology announced that the achievement of this target would be delayed until the mid-1980's.

Presently, the industrial sector accounts for one-third of our expenditure on research and development, while the remaining two-thirds is spent by government and the universities. Even if the industrial proportion is increased as expected by government, a significant proportion of the new research initiatives required to meet the federal government's target will have to come from the universities.

Research in Canadian universities has traditionally been supported by both the federal and provincial governments. Specific federal support has been provided primarily through the three national granting agencies: the Natural Sciences and Engineering Research Council (NSERC), the Medical Research Council (MRC) and the Social Sciences and Humanities Research Council (SSHRC). Grants provided by these agencies to university researchers contribute only to the direct costs of the research undertaken. The federal government's renewed commitment to research was demonstrated by a substantial increase in the funds provided to the three federal granting agencies. For 1980-81, the budget for NSERC increased by 34% or \$41.4 million over the previous year to \$162.4 million, MRC's budget increased by 17% or \$11.9 million to \$82 million, and SSHRC's budget increased by 16% or \$5.8 million to \$41.7 million.

For the most part, provincial support for research has been provided through normal operating grants to universities. The Government of Ontario has also supported a significant amount of research in particular areas in the universities through specific grants or contracts. The operating grants of the universities have supported: (1) the direct and indirect costs of research undertaken by faculty as part of their

normal responsibilities; (2) some of the direct costs of research funded by federal agencies; (3) all of the indirect costs of the grants provided by external councils; and (4) in certain instances, the indirect costs of contract research, although in recent years, the universities have negotiated overhead costs in many external contracts. The constraints placed on operating grants in recent years have hampered the research efforts of Ontario universities and will severely restrict the ability of the universities to respond to any new research challenge.

Council has repeatedly pointed out that the combined effects of underfunding, the uneven age distribution of the faculty complement and declining enrolments in certain disciplines have made it difficult for universities to add new academic staff in recent years. With most faculty members below 45 years of age, Canadian universities face the prospect of not being able to bring in, for almost a generation, the "new blood" essential to the stimulation of research and the maintenance of scholarship. This problem has broader implications than simply the decline of the quality of university research. Because Canada's research efforts are so heavily concentrated in the universities, the situation outlined above will result in severely restricted opportunities for well-qualified researchers, especially those who should be beginning their careers, to carry out productive research. It is essential that the research force in Canada be maintained and strengthened by bringing new researchers into the system through whatever initiatives are necessary.

In The Ontario University System: A Statement of Issues, Council suggested that a possible step towards overcoming this

problem was that "the universities might consider asking the federal granting councils to seek funds for several hundred five-year research career awards to be granted competitively". NSERC recently responded to this problem by beginning a program of University Research Fellowships aimed at expanding career opportunities in research in the natural sciences and engineering. NSERC stated in its press release of June 1980:

The program of research fellowships will assist Canada in the maintenance of university R & D and in the provision of an adequate supply of promising and highly qualified researchers in Canadian universities to help meet the expected increased demand for new faculty appointments in the early 1990's caused by an increased retirement rate of existing faculty and increased student enrolments.

In 1980, up to one hundred five-year awards will be offered. Each award is valued at up to \$23,500 per annum and is paid to the university as a contribution towards the salary and fringe benefit costs of the Fellow. NSERC Research Fellows will also be provided with an annual operating grant for an initial establishment period of up to three years. Similar in nature to other NSERC grants, these funds will go towards covering the direct cost of research.

Council supports and encourages the federal government's initiatives to stimulate research in Canadian universities and to bring "new blood" into the research enterprise. But Council notes that these initiatives, for example the NSERC Research Fellowships, do not cover all the direct costs involved. Council notes as well the concern expressed by McMaster University at this Spring's hearing, that in the present climate of underfunding there are insufficient funds available to cover the indirect costs of research. The residual direct costs and the indirect costs of sponsored research, including such costs as library, computer,

administrative and physical plant resources, and technical support staff, have had to be covered by the operating grants provided by the provincial government. The recent study by the Canadian Committee on Financing University Research, Report of the Pilot Study on the Cost of University Research, found that the ratio of indirect to direct expenditures in research activity varied, depending on the university examined, from a low of 47% to a high of 63% in the six universities sampled. Clearly, a large proportion of the total cost of research comprises indirect costs. Thus the acceptance of research grants from a federal agency places an extra financial burden on the universities that must be met by reallocating resources from other functions.

At one time, the Province of Ontario provided a level of funding which was sufficient to cover a large part of the indirect or overhead costs of research. As noted earlier, however, the operating grants provided to Ontario's universities have in recent years been such that the universities have not been able to maintain their research base, particularly with respect to equipment and libraries (as illustrated in Sections D and E in this paper).

In view of the difficulties presently experienced by Ontario universities in covering the costs of the existing level of research activity, it would appear that under the present funding arrangements, Ontario universities will be unable to respond effectively to the challenge presented by the federal government's initiatives in the research area. If underfunding persists, Ontario universities will not have sufficient funds available from their operating grants to cover the indirect costs of the new, federally sponsored initiatives. Of all the university

systems in Canada, Ontario's system is one of those least likely to be able to respond effectively to the federal government's initiatives. If Ontario universities are unable to afford to increase their research efforts in the same manner as universities in other provinces, their position relative to other Canadian universities will be seriously eroded. The situation has become sufficiently critical that the Government of Ontario, besides providing an adequate level of funding for the universities, should immediately begin discussions with the federal government in an effort to have the latter provide support for the indirect costs associated with federally sponsored research.

With respect to Ontario's total research effort, Council proposed in 1978 in The Ontario University System: A Statement of Issues the establishment of a special Provincial industrial research fund to support projects undertaken by industry and the universities that were of direct importance to the industrial base of Ontario. In System on the Brink, Council identified a trend in other provinces towards establishing agencies which develop a co-ordinated research strategy in areas of provincial concern. Council suggested that unless Ontario intends to allow the deterioration of the strong research base that it has developed, additional research initiatives would be needed in Ontario, similar to those undertaken in other provinces. Council notes with much interest the proposal presented earlier this year to the Premier by the Council of Ontario Universities for an Ontario Council for Research and Productivity. COU suggests that such a body would have

two major functions:

1. The formulation of policies to promote a more creative partnership in research of government, business, industry and the universities in support of provincial goals; and
2. The identification and funding of specific needs and opportunities for research and development in areas that are important for the diversification and improvement of provincial productivity¹.

Council supports the general concept of such a body and believes that the provincial government should give this proposal serious consideration. The co-ordination and support of research initiatives in areas of provincial importance would be instrumental in improving Ontario's position in industry and business in the future.

1. University Research and the Province of Ontario, A Report of the Special Committee on the Provincial Support of University Research, Council of Ontario Universities, p.p. 6, 7.

It is clear from the evidence presented in this paper that the Ontario university system remains in trouble. The dramatic shifts among discipline sectors that have occurred in undergraduate and graduate enrolments over the past five years are persisting and are creating severe problems in allocating faculty and staff resources. Furthermore, continuing financial constraints have forced the universities to severely curtail expenditures on non-salary items such as library acquisitions and equipment purchases.

The overall effect of underfunding is the growing inability of the universities to carry out the goals stated in the introduction to this paper, let alone to respond to new challenges. With regard to the latter, the growing interest of the federal government in increasing research is particularly telling. To repeat what was stated in the introduction to this paper, of all the university systems in Canada, Ontario's system is in one of the worst positions to respond effectively to the challenge presented by the federal government. A continuation of the present research funding policies of both levels of government will result in the continued deterioration of the Ontario university system's research base, thereby undermining Ontario's ability to promote industrial growth through research and innovation.

APPENDIX

TABLE 1
Interprovincial Comparisons of University Revenue:
Total Operating Income per FTE Student, 1974-75 to 1978-79

	1974-75 \$	Rank	1975-76 \$	Rank	1976-77 \$	Rank	1977-78 \$	Rank	1978-79 \$	Rank
British Columbia	3,631	2	4,310	2	4,836	2	5,246	2	5,755	2
Alberta	3,458	7	4,039	5	4,578	3	5,098	3	5,636	3
Saskatchewan	3,541	5	4,150	3	4,462	5	4,906	5	5,554	4
Manitoba	3,030	9	3,579	9	3,996	8	4,441	9	4,780	9
Quebec	3,449	8	4,136	4	4,508	4	4,917	4	5,140	7
New Brunswick	3,488	6	3,948	7	4,415	6	4,754	6	5,216	5
Nova Scotia	3,640	1	4,014	6	3,907	9	4,572	8	5,180	6
P.E.I.	2,885	10	3,015	10	3,366	10	3,106	10	4,155	10
Newfoundland	3,560	4	4,413	1	5,028	1	5,411	1	6,278	1
Weighted average for 9 provinces other than Ontario(1)	3,466		4,090		4,486		4,916		5,323	
Ontario	3,566	3	3,797	8	4,172	7	4,620	7	5,068	8
Canada	3,504		3,978		4,366		4,808		5,233	

(1) Weighted by enrolment.

Source: Second Report of the Tripartite Committee on Interprovincial Comparisons, September 1980, page 9.

TABLE 2

Interprovincial Comparison of University Grants:
Provincial Operating Grants per FTE Student,
1974-75 to 1978-79.

	1974-75 \$	Rank	1975-76 \$	Rank	1976-77 \$	Rank	1977-78 \$	Rank	1978-79 \$	Rank
British Columbia	2,981	3	3,577	3	4,014	2	4,420	3	4,897	3
Alberta	2,965	4	3,545	4	3,982	4	4,435	2	4,939	2
Saskatchewan	2,812	5	3,324	5	3,633	5	3,980	5	4,511	5
Manitoba	2,591	8	3,012	6	3,446	6	3,865	6	4,111	7
Quebec	2,998	2	3,672	2	4,006	3	4,376	4	4,601	4
New Brunswick	2,639	7	2,934	9	3,345	8	3,850	7	4,293	6
Nova Scotia	2,484	9	2,939	8	3,321	9	3,558	9	3,887	9
P.E.I.	2,287	10	2,424	10	2,752	10	2,895	10	3,420	10
Newfoundland	3,094	1	3,899	1	4,469	1	4,826	1	5,672	1
Weighted average for 9 provinces (1) other than Ontario	2,891		3,476		3,864		4,249		4,607	
Ontario	2,762	6	2,999	7	3,358	7	3,772	8	4,096	
Canada	2,842		3,294		3,671		4,074		4,426	

(1) Weighted by enrolment.

Source: Second Report of the Tripartite Committee on Interprovincial Comparisons, September 1980, page 5.

TABLE 3

Interprovincial Comparisons, 1979-80 and 1980-81

	% Increase in Grants		% Increase in Fee Rates ⁽¹⁾		% Change in FTE Enrolment ⁽²⁾	
	1979-80	1980-81	1979-80	1980-81	1979-80	1980-81
British Columbia	8.3	9.5	0.0	8.3-10.0	1.4	2.5
Alberta	16.8	12.0	0.0	10.0	-1.2	0.0
Saskatchewan	6.95	8.0	5.0-6.3	5.3-8.3	-1.5	-1.0 to 1.0
Manitoba	6.0	8.3	6.0	8.0	-3.0	0.0
Ontario	5.0	7.2	5.0	7.5-18.3 ⁽³⁾	0.4	1.0
Quebec	8.7	13.7	0.0	0.0	3.0	3.5
New Brunswick	8.0	7.9	7.3	7.6	-2.1	-1.0
Nova Scotia	6.8	9.7	8.9	7.5	-2.2	-1.0
P.E.I.	8.9	7.9	5.3	9.5	-4.1	-1.0
Newfoundland	9.0	10.0	0.0	10.0	2.4	0.4

(1) Fee increases may differ among institutions and programs within institutions. When no range of increases is provided, the figure represents a rough average of fee increases across the province.

(2) Enrolment changes for 1980-81 are estimates.

(3) Comprised of a 7.5% formula fee rate increase and a discretionary fee rate increase of up to 10% of the formula fee rate.

TABLE 4

Comparison of Revenue per Student in Universities and Elementary
and Secondary Schools in Ontario in Constant 1970-71 dollars,
1970-71 = 100.00, 1970-71 to 1979-80

	<u>Index of Provincial Operating Grants Plus Tuition Fees per FTE University Student</u>	<u>Index of Provincial Grants plus Local Tax Revenue per Elementary and Second- ary School Pupil</u>
1970-71	100.0	100.0
1971-72	98.3	105.5
1972-73	95.6	108.0
1973-74	98.8	106.9
1974-75	85.4	109.1
1975-76	84.3	113.4
1976-77	88.0	127.4
1977-78	91.7	137.5
1978-79	91.3	135.5
1979-80	86.8	133.2

Notes: 1. Provincial grants to schools include the provincial
contribution to the Teachers' Superannuation Fund.

2. Indexes are in constant 1970-71 dollars, deflated
by the January Consumer Price Index (CPI) for each
year.

Source: Ministry of Colleges and Universities

TABLE 5

Comparison of Provincial Support per Student in University and
Elementary and Secondary Schools in Ontario in Constant 1970-71
Dollars, 1970-71 = 100.00, 1970-71 to 1979-80

	Index of Prov- incial Operating Grants per FTE University Student	Index of Prov- incial Support per Elementary and Secondary Pupil (1)	Index of Prov- incial Support per Pupil, excl- uding Teachers' Superannuation
1970-71	100.0	100.0	100.0
1971-72	100.0	116.3	116.7
1972-73	94.0	124.6	127.8
1973-74	87.9	124.8	126.0
1974-75	84.8	128.0	120.9
1974-75	83.1	129.6	130.7
1976-77	90.6	137.7	133.7
1977-78	93.6	152.1	137.8
1978-79	94.0	145.8	135.9
1979-80	89.6	146.3	136.9

(1) Provincial Grants to schools include the provincial contribution to the Teachers' Superannuation Fund.

Note: 1. Indexes are in constant 1970-71 dollars, deflated by the January CPI for each year.

Source: Ministry of Colleges and Universities

TABLE 6

Academic Staff Complements, 1977-78 to 1979-80⁽¹⁾

	<u>1977-78</u>	<u>1978-79</u>	<u>1979-80</u>
Full-Time Tenure Stream	9,808	9,926	9,881
Full-Time Limited Term	1,643	1,584	1,498
FTE of Part-time	1,815.9	1,751.3	1,664.6
	—————	—————	—————
TOTAL FTE	13,266.9	13,261.6	13,043.6

(1) Excludes Algoma, Nipissing, Hearst and Dominican Colleges, the Ontario College of Art and the church-related affiliates of the provincially assisted universities. Full-time faculty is reported as of October 1st of each year.

Source: Council of Ontario Universities.

TABLE 7

Equipment and Furniture Expenditures from Operating Income (\$ 000)
1976-77 to 1979-80

	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>	<u>1979-80</u>
Brock	271	238	206	321
Carleton	1,023	1,209	1,230	976
Guelph	1,633	1,482	1,812	1,182
Lakehead	291	355	346	430
Laurentian	188	307	312	252
Nipissing	63	33	26	20
Hearst	68	17	19	65
McMaster	1,414	1,718	2,035	1,371
Ottawa	1,301	1,395	1,563	2,214
Queen's	1,574	803	1,182	1,474
Toronto	4,704	5,841	7,003	5,964
Trent	160	138	118	111
Waterloo	2,432	3,099	2,255	2,720
Western	3,138	3,336	3,283	3,409
WLU	574	556	565	522
Windsor	1,064	1,010	975	1,241
York	1,210	948	1,439	1,759
Ryerson	2,057	1,941	956	1,176
OISE	251	260	349	221
 TOTAL	 23,416	 24,686	 25,674	 26,058
(constant 1976-77 \$s)	(23,416)	(21,922)	(20,538)	(18,694)

- Notes: 1. Excludes Algoma College since data were not available for 1976-77.
2. The price deflator used for calculating constant dollar values for 1977-78 and 1978-79 was the Equipment, Computer and Furniture component of the Ontario universities' Non-Salary Price Index. The price deflator used for 1979-80 was Council's estimate of the value of the total Ontario universities' Non-Salary Price Index. The percentage increases in the Equipment, Computer and Furniture component of the index were quite similar to those experienced by the total index in the first three years of the table.
- Source: COFO-UO Financial Reports for 1976-77, 1977-78 and 1978-79. Anticipated final expenditures obtained from the universities for 1979-80.

TABLE 8

Expenditures on Library Acquisitions from Operating Income
(\$ 000's constant 1972-73)

	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Brock	213	214	252	264	219	208	175	166
Carleton	824	847	866	650	681	685	521	474
Guelph	565	608	635	505	635	550	514	460
Lakehead	287	296	263	236	257	258	193	202
Laurentian	300	254	246	218	200	192	159	137
McMaster	830	915	974	860	1,016	894	858	836
Ottawa	1,378	1,210	1,048	844	762	704	621	616
Queen's	1,001	817	868	716	709	612	552	630
Toronto	2,222	2,209	1,902	1,853	1,693	1,653	1,552	1,586
Trent	235	195	252	241	235	230	169	171
Waterloo	933	987	997	766	762	794	699	669
Western	1,352	1,029	1,097	1,108	1,246	956	917	885
Wilfrid Laurier	235	273	436	365	361	345	291	249
Windsor	605	675	756	635	693	602	480	458
York	1,320	1,187	998	934	819	741	664	695
Ryerson	250	278	337	77	227	198	123	136
OISE	128	125	116	90	79	80	73	68
TOTAL	12,678	12,119	12,043	10,362	10,594	9,702	8,561	8,438

Note: The price deflator used for calculating constant dollar values for 1972-73 to 1978-79 was the Books and Periodicals component of the Ontario Universities' Non-Salary Price Index. The price deflator used for 1979-80 was provided by Queen's University.

Source: Council of Ontario Universities for the year 1972-73 to 1977-78.
COFO-UO Financial Report for 1978-79.
Anticipated final expenditures obtained from the universities 1979-80.

TABLE 9

BOI Plus Supplementary Grants Per Current Year BIU ⁽¹⁾

	1974-75 \$	1975-76 \$	1976-77 \$	1977-78 \$	1978-79 \$	1979-80 \$	TOTAL (2)
Brock	1,872 (115)	1,956 (83)	2,241 (18)	2,526	2,886	2,925	2,394 (36)
Carleton	1,944 (83)	1,983 (80)	2,256	2,611	2,854	2,962	2,427 (27)
Guelph	1,776	2,011	2,221	2,473	2,813	2,957	2,371
Lakehead	2,155 (226)	2,164 (244)	2,383 (192)	2,484 (139)	2,769 (98)	3,120 (74)	2,510 (162)
Laurentian	1,935 (241)	2,195 (168)	2,334 (148)	2,659 (103)	2,755 (51)	2,901 (21)	2,465 (122)
Algoma (3)	2,115	2,250	2,694	2,996	3,508	4,343	2,841
Nipissing	1,565	1,608	1,866	2,274	3,381	3,163	2,262
Hearst	1,886	2,361	2,713	3,949	2,882	4,406	2,840
McMaster	1,802	1,975	2,258	2,547	2,788	2,949	2,383
Ottawa	1,839	1,984	2,218	2,560	2,664	2,711	2,335
Queen's	1,871	2,010	2,207	2,458	2,662	2,789	2,337
Toronto	1,863	2,055	2,290	2,590	2,672	2,770	2,374
Trent	2,301 (531)	2,449 (522)	2,604 (461)	2,753 (385)	3,129 (345)	3,240 (302)	2,748 (424)
Waterloo	1,907	1,988	2,171	2,481	2,702	2,831	2,349
Western	1,837	2,001	2,292	2,559	2,807	2,932	2,398
Wilfrid Laurier	1,910	1,894	2,215	2,441	2,618	2,655	2,299
Windsor	1,866 (51)	1,852 (48)	2,085	2,441	3,022	3,154	2,385 (16)
York	1,891 (11)	2,001 (29)	2,221	2,596	2,822	2,905	2,401 (7)
Ryerson	1,673	2,011	2,346	2,449	2,436	2,518	2,255
OISE	1,798	1,962	2,133	2,270	2,389	2,579	2,203
OCA	1,458	1,585	1,926	2,157	2,379	2,448	2,035
TOTAL	1,863 (21)	2,007 (22)	2,246 (10)	2,535 (9)	2,734 (6)	2,845 (5)	2,372 (11)

(1) Bracketed figures represent that portion of the main figure which is attributable to Supplementary Grants.

(2) Calculated by dividing total BOI plus Supplementary Grants for the period 1974 to 1980 by total BIUs for the same period.

(3) These figures do not include the \$100,000 per annum given to Algoma since 1978-79 by the Ministry of Northern Affairs. If these funds were included, Algoma's figure for 1979-80, for example, would increase by \$304 per BIU.

Source: Ministry of Colleges and Universities.

TABLE 10

Difference from Average BOI Plus Supplementary Grants Per Current Year BIU

	1974-75 \$	1975-76 \$	1976-77 \$	1977-78 \$	1978-79 \$	1979-80 \$	TOTAL
Brock	9	- 51	- 5	- 9	152	80	22
Carleton	81	- 24	10	76	120	117	55
Guelph	- 87	4	- 25	- 62	79	112	- 1
Lakehead	292	157	137	- 51	147	275	138
Laurentian	72	188	88	124	21	56	93
Algoma	252	243	448	461	774	1,498	469
Nipissing	- 298	- 399	- 380	- 261	647	318	- 110
Hearst	23	354	467	1,414	148	1,561	467
McMaster	- 61	- 32	12	12	54	104	11
Ottawa	- 24	- 23	- 28	25	- 70	- 134	- 37
Queen's	8	3	- 39	- 77	- 72	- 56	- 35
Toronto	---	48	44	56	- 62	- 75	2
Trent	438	442	358	218	395	395	376
Waterloo	44	- 19	- 75	- 54	- 32	- 14	- 23
Western	- 26	- 6	46	24	73	87	25
Wilfrid Laurier	47	- 113	- 31	- 94	- 116	- 190	- 73
Windsor	3	- 155	- 161	- 94	288	309	13
York	28	- 6	- 25	61	88	60	29
Ryerson	- 190	4	100	- 86	- 298	- 327	- 117
OISE	- 65	- 45	- 113	- 265	- 345	- 266	- 169
OCA	- 405	- 422	- 320	- 378	- 355	- 397	- 337

Source: Table 9

TABLE 11

Rank Order of the Difference from the Average
BOI plus Supplementary Grants per BIU over the
period 1974-75 to 1979-80

<u>Institution</u>	<u>Differences From Average</u>	
	\$	%
1. OCA	- 337	(14.2)
2. OISE	- 169	(7.1)
3. Ryerson	- 117	(4.9)
4. Nipissing	- 110	(4.6)
5. Wilfrid Laurier	- 73	(3.1)
6. Ottawa	- 37	(1.6)
7. Queen's	- 35	(1.5)
8. Waterloo	- 23	(1.0)
9. Guelph	- 1	(--)
10. Toronto	2	(0.1)
11. McMaster	11	(0.5)
12. Windsor	13	(0.5)
13. Brock	22	(0.9)
14. Western	25	(1.1)
15. York	29	(1.2)
16. Carleton	55	(2.3)
17. Laurentian	93	(3.9)
18. Lakehead	138	(5.8)
19. Trent	376	(15.9)
20. Hearst	467	(19.7)
21. Algoma	469	(19.8)

Source: Table 10

